

NOTES FROM THE FIELD  
GEOLOGIC RESOURCES INVENTORY  
COLORADO NATIONAL MONUMENT, CO

Geology Workshop Report  
Bruce Heise  
Geologic Resources Division

## SUMMARY

On June 23 and 24, 1998, staff from Colorado National Monument, Mesa State College, the USGS, and the NPS Natural Resources Program Center met in the Monument to discuss mapping and other geologic needs. A list of attendees is attached to the end of this document. The Monument is presently being remapped and has a strong volunteer support group of local retired geologists and faculty from the college to assist in handling park geologic needs. Significant issues discussed or visited on the ground included:

- 1) Management Issues such as flash flooding and landslides, threats to public safety and historic structures stemming from geologic hazards, and external development at the mouths of canyons
- 2) Exciting new discoveries including new trace fossil evidence and the fire history of the area revealed in canyon floor sediments
- 3) Interpretive display needs, including new "virtual" geologic displays in the Visitor Center
- 4) Evaluating research requests, including those from mineral development companies
- 5) A wide range of fiscal issues, mostly pertaining to the costs of digitizing, printing, and distributing the new geologic map and report.

The plan now is to follow up on these points and reconvene in the fall.

One of the geologic features identified during USGS mapping at Colorado National Monument and discussed at the Pilot Mapping Project meeting there in July was the occurrence of charcoal horizons in the valley fill. C<sup>14</sup> dating of these horizons gives a +-50 year indication of the fire history of the park. Pat Perrotti, resource manager for the park, relayed this information to NPS fire specialists, who were enthusiastically receptive. As a result of this find, a mid-October site meeting has been scheduled to look at the fossil record. Attending will be NPS specialists in fire ecology, fire protection, and pinon pines. USGS experts on soils, paleo-climatology, and sedimentology will also attend. This is a direct park management application of information obtained through geologic mapping.

INSERT AGENDA HERE

Participants are listed in Attachment 2

## MANAGEMENT NEEDS

DEVELOPMENT: inside

Outside – on boundaries, fire development, flashfloods

No GMP

Request by developers for access to park, not for public

Comprehensive

Public safety; on Monument Canyon Trail resource protection on Serpents trail:

massive repair, geol assessment-engineer

Climbing impacts

Research; which way should geological research go

Proposals

Paleo – new trace fossil

In backcountry use GIS for analysis, geologic changes, modeling

Fire Behavior: look at No Thoroughfare Canyon

Valley fill,

Oct 13-14 – Fire Ecologists and geologist in COLM to look at fire history Pinon

Pine expert

Tim Sextent, NPS Fire Pro

Soils, paleo-climatologist, c14 dating +\_ 50 years, fire return rates based on charcoal layers in valley fill

Fire threats to historical structures

Utility corridors power, water, leaks

Summary session:

Trends

## FISCAL ISSUES

In conversations w/NH Association director (since removed) considerable added expense to publish

Too great an investment for NHA

USGS publishing maps: I-Maps produced electronically CD rom, net, print on demand

\$3k to publish

Diane Wells Chief of publications, to print 3000 maps would cost \$10k

Of 3000

-USGS takes 1000, would pay \$3300

-remaining \$6700 for 2000 maps

opportunity for NPS collaboration, if to be digitized by USGS, I&M could use various contributions, possible ways to enhance selling maps

# ATTACHEMENT I

Item	By whom	Status
Geologic map	Bob Scott, others	In progress
Site bulletins	Bill Hood	One written, another in draft, others planned
Geologic road log	Bill Hood & G.J. Geol. Society	Visitor center to W. Entrance Sta. Done; VC to E.E. Sta. Scheduled
Geol. Trail maps	Sandy & Bill Hood	Planned for autumn
Revised strat. Column hand-out	Bill Hood, Rex Cole	In progress
Simulated geol. Field trip	Bill Hood	In progress, a long-term effort
Book on geology of CNM	Bob and Anne Harding, others ?	Planned
CD-ROM based display for lobby	Bill Hood, Ron Young, others	Dreaming about it
Revised strat chart for Exhibits Room		
Revise roadside display (Fruita Canyon)		
Roadside display for Artists Point		
Flash Flood display on Old Gordon Trail		
Valley Fill Display Upper No Thor. Can.		
3-D model		
Road Logs-DINO, Moab, BLCA		

ATTACHMENT II

NAME	AFFILIATION
Bruce Heise	National Park Service Geologic Resources Division
Bill Hood	Volunteer, Colorado National Monument Adjunct Professor of Geology, Mesa State College
Jack Roadifer	Volunteer, Colorado National Monument
Joe Gregson	National Park Service Inventory and Monitoring Division
Rick Livaccari	Professor of Geology, Mesa State College
Patrick Perrotti	Colorado National Monument Chief, Natural Resources
Judi Lofland	Colorado National Monument Interpretation
Ron Young	Colorado National Monument Chief, Interpretation
Bob Scott	U.S. Geological Survey
Pete Larson	Volunteer, Colorado National Monument
Steve Hickman	Superintendent, Colorado National Monument
Jim Johnson	Professor of Geology Mesa State College

**Colorado National Monument  
Geological Resources Inventory Workshop  
June 23-24, 1998**

**June 23, 1998**  
**Hall)**

**Mesa State College, Wubben Hall (Weldon Lecture**

**9:00 AM**      **Introductions**  
Steve Hickman, Superintendent COLM

**NPS I&M Program Overview**  
**Geological Resources Inventory**  
Joe Gregson, I&M

**NPS Geological Resources Division Overview**  
Bruce Heise, GRD

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**Geological Resources Needs and Issues at COLM**  
Steve Hickman, COLM

**Geological Resource Issues for Interpretation at COLM**  
Ron Young, COLM

**Summary of USGS Geological Mapping and Research**  
Bob Scott, USGS

**Other Cooperators and Discussion**  
**Authors for COLM GR Report and/or other papers**  
**Deliverables from mapping, cooperators, and NPS inventory**  
**Meeting wrap-up and feedback**

12:00 PM      **Lunch**

1:00 PM      **Field Trip in the monument with Bob Scott**

**June 24, 1998                      Colorado National Monument**

8:30 AM      **NPS and USGS Business**

- **Continue discussion as needed.**
- **Geology-GIS digital data model for COLM**
- **Fiscal Issues**
- **Meeting wrap-up and feedback**